Local climate changes will affect your drinking water

Hotter weather, wetter winters and drier summers will change the picture for water in the Pacific Northwest (PNW) by the 2020s, according to scientists at the University of Washington.

During the next 20 to 40 years, our local climate is expected to change significantly. On average, global climate models project a future rate of warming of about 0.9ºF (0.5ºC) per decade for the PNW. This is much more than the 0.4ºF (0.2ºC) increase per decade observed during the last half of the 20th century.

Water resource impacts

As rising temperatures cause mountain snowpack to diminish, PNW rivers that get some flow from snowmelt will see reduced summer flow, increased winter flow and earlier peak flow. In many streams and rivers, these changes have already been observed.

These lower summer flows will mean more competition for water among hydropower, irrigation, fish, recreation, etc. Higher winter flows could mean both an increase in winter hydropower production and a greater potential for flooding.

Groundwater supplies are less affected by short-term climate changes than surface water; they are more affected by long-term trends. Changes in rainfall will mean less water is available for groundwater recharge, leading to falling groundwater levels.

Groundwater provides the base flow for many streams and rivers. Falling groundwater levels will reduce seasonal stream flows.

Other resource impacts

Forests: High-altitude forests will very likely expand upward and into meadows as the growing season lengthens. Low-altitude forests may come under increased drought stress. The risk of forest fires may increase.

Salmon: Salmon fare poorly in high temperatures. Juvenile salmon will be less likely to survive in streams as a result of warmer water temperatures and lower summer streamflow.

Coastal resources: Sea-level rise will cause permanent flooding in low-lying areas (especially in south Puget Sound around Olympia), more erosion at the base of bluffs and along the coast, and shrinking wetlands. More landslides may occur with wetter winters.

Agriculture: Many crops will grow better with higher CO2 and a longer growing season before temperatures greatly increase, provided there is sufficient water. However, some pests and weeds will also benefit.

PNW ski industry: Warmer winter temperatures and increased winter precipitation will likely delay the opening of the PNW ski season, shorten the season, and increase the likelihood of rain when ski areas are open.

What you can do

Your actions make a difference to our water future. You can help slow down global warming. And you can help conserve our shrinking water supplies.

Help reduce global warming.
Here are some steps that will greatly cut your contribution to higher temperatures.

- **Drive a fuel-efficient car.** Look at hybrid vehicles or cars that can run on E85 ethanol or biodiesel.
- **Drive less.** Live closer to work, take the bus to work, walk or cycle on trips under a mile. Chain together trips to minimize cold engine starts.
- **Reduce your home's energy use.** Insulate your home, tune up your furnace, wrap your water heater in an insulating blanket, and caulk and weather-strip around doors and windows.
- **Buy energy-efficient compact fluorescent bulbs** for your most-used lights. New models are much better than the old ones.

Help conserve water.
There are a number of steps you can take that will save you water, energy—and money.

Inside the home

- Wash full loads of dishes and clothes. This can save you 2,000 gallons a year.
- Fix leaking faucets and toilets. Research has shown that an average of 8 percent of home water use is wasted through leaks.
- Install efficient fixtures, such as toilets, shower heads, dishwashers and clothes washers.

Outside the home

- Use organic mulch, such as compost or tree clippings, in landscape beds to reduce water use, reduce weeds and improve the health of your plants.
- Water your plants, and your lawn, slowly and deeply. Slow and deep watering will help plants grow strong roots, making them less susceptible to drought.
- Choose plants that are pest-resistant, require less water, and are appropriate for your yard.
- Get your sprinkler system tuned up to reduce leaks and increase efficiency.
- Wash your cars at locations that recycle their water.

For more information
To learn more about local climate change impacts, visit the University of Washington's Climate Impact Group at www.cses.washington.edu/cig/.

For practical steps to help reduce your contribution to global warming, visit Climate Solutions at www.climatesolutions.org/.

For more ideas to conserve water in and around your home, visit the Saving Water Partnership at www.savingwater.org/.

This article has been furnished by the Redmond-Bear Creek Groundwater Protection Committee.